

ACTIVE METAL FUEL CELLS

ABSTRACT OF THE DISCLOSURE

Active metal fuel cells are provided. An active metal fuel cell has a renewable active metal (e.g., lithium) anode and a cathode structure that includes an electronically conductive component (e.g., a porous metal or alloy), an ionically conductive component (e.g., an electrolyte), and a fluid oxidant (e.g., air, water or a
5 peroxide or other aqueous solution). The pairing of an active metal anode with a cathode oxidant in a fuel cell is enabled by an ionically conductive protective membrane on the surface of the anode facing the cathode.